

Memorandum of Understanding between
The United States Environmental Protection Agency
and
SAMPLE

I. Common Agreements and Principles

- A. This is a voluntary agreement between ***SAMPLE*** ("ENERGY STAR^{®1} Partner" or "Partner") and the United States Environmental Protection Agency (EPA), by which ***SAMPLE*** joins the ENERGY STAR[®] Program. The terms of this Memorandum of Understanding (MOU) shall apply to residential-sized, air-source heat pumps and/or central air-conditioners sold by Partner under its own brand name(s).
- B. ENERGY STAR Partner and EPA agree that the primary purpose of the ENERGY STAR Program is to promote the manufacturing and marketing of energy-efficient equipment, thereby potentially reducing combustion-related pollution.
- C. ENERGY STAR Partner and EPA agree that the use of energy-efficient equipment may also increase profits and competitiveness.
- D. ENERGY STAR Partner and EPA agree that the ENERGY STAR Program may also improve or enhance equipment's useful lifetime, customer satisfaction, and overall product quality.
- E. ENERGY STAR Partner and EPA agree that publicizing the ENERGY STAR Program is important to demonstrate the following: the concern of Partner for the environment, the vitality of the free enterprise system in reducing costs, and the capability of voluntary programs to achieve environmental goals.
- F. ENERGY STAR Partner and EPA agree that maintaining public confidence in the ENERGY STAR Program is critical to achieving the shared goals of Partner and EPA.
- G. ENERGY STAR Partner and EPA agree that the integrity of the ENERGY STAR HVAC Program and the ENERGY STAR logo depend on consumer recognition of the ENERGY STAR logo as a means of identifying products, in a particular market, that are more energy-efficient than conventional products. Therefore, ENERGY STAR Partner and EPA will work together to revise the technical specifications as necessary to ensure that only the most energy-efficient products qualify for the ENERGY STAR[®].

¹ENERGY STAR is a U. S. registered mark

- H. ENERGY STAR Partner and EPA agree that membership in the ENERGY STAR Program is essential to the cooperative effort to achieve the shared goals stated above.

II. Definitions

- A. **Air-Source Heat Pump**: An air-source unitary heat pump model consists of one or more factory-made assemblies which normally include an indoor conditioning coil(s), compressor(s), and outdoor coil(s), including means to provide a heating function. Air-source heat pumps shall provide the function of air heating with controlled temperature, and may include the functions of air-cooling, air-circulation, air-cleaning, dehumidifying or humidifying. This MOU shall cover air-source heat pumps that are rated below 65,000 Btuh and powered by single phase current. This definition excludes such equipment as window and packaged terminal heat pumps. The air-source heat pump may be a single packaged system, where there is only one assembly, or a split system where there are two. If such equipment is provided in more than one assembly, matched assemblies shall be used in meeting the specifications outlined in section IV. B.
- B. **Central Air Conditioner**: A central air-conditioner model consists of one or more factory-made assemblies which normally include an evaporator or cooling coil(s), compressor(s), and condenser(s). Central air-conditioners provide the function of air cooling, and may include the functions of air-circulation, air-cleaning, dehumidifying or humidifying. This MOU shall cover central air-conditioners that are rated below 65,000 Btu, and powered by single phase current. This definition excludes such equipment as window, or packaged terminal air-conditioners. If such equipment is provided in more than one assembly, matched assemblies shall be used in meeting the specifications outlined in section IV. B.
- C. **Split System**: A split system is an air-source heat pump or central air-conditioner with separate indoor (evaporator) and outdoor (condenser) units. For split systems, the energy-efficiency ratings of a particular split system model are based on one of the following: 1) the condenser-evaporator combination that is the Partner's most commonly sold combination for that condenser, or 2) the actual condenser-evaporator coil combination of the split system model.
- D. **Desuperheater**: A heat recovery system that captures heat from the hot refrigerant as it leaves the compressor of an air-source heat pump or central air-conditioner and transfers the heat to the domestic hot water tank. Desuperheaters provide hot water only while the heat pump or air conditioner is providing space conditioning.
- E. **Heating Seasonal Performance Factor (HSPF)**: This is a measure of a heat pump's energy efficiency over one heating season. It represents the total heating output of a heat pump (including supplementary electric heat) during the normal heating season (in Btu) as compared to the total electricity consumed (in watt-hours) during the same period. HSPF is based on tests performed in

accordance with U.S. Department of Energy (DOE) test procedures found in 10 CFR 430 Appendix M to subpart B.

- F. Seasonal Energy Efficiency Ratio (SEER): This is a measure of equipment energy efficiency over the cooling season. It represents the total cooling of a central air-conditioner or heat pump (in Btu) during the normal cooling season as compared to the total electric energy input (in watt-hours) consumed during the same period. SEER is based on tests performed in accordance with DOE test procedures found in 10 CFR 430 Appendix M to subpart B.
- G. Combined Cooling Performance Factor (CCPF): This is a measure of the cooling efficiency for an integrated appliance that measures the total combined efficiency including water heating. Testing is in accordance with ARI 290 testing protocols.
- H. Combined Heating Performance Factor (CHPF): This is a measure of the heating efficiency for an integrated appliance that measures the total combined efficiency including water heating. Testing is in accordance with ARI 290 testing protocols.
- I. Manual J Calculation: A calculation performed to determine the heating load for a residence or small commercial building. The calculation includes site-specific characteristics such as regional weather data, building framing materials, building insulation levels, building air infiltration levels and window area. The calculation follows procedures and protocols developed by the Air Conditioning Contractors of America.²
- J. Manufacturer Limited Warranty: For purposes of this MOU, a manufacturer limited warranty is an assurance by the Partner that purchased system equipment and components are warranted by the manufacturer for a period of time. The period of time is typically expressed in numbers of years.³ The exact terms of the limited warranty shall be determined by the Partner.

III. Entry into Force and Duration

- A. This MOU enters into force when signed by both EPA and Partner. This MOU replaces all previous versions as of December 1, 1998.
- B. The terms of this MOU shall remain in force until such time as EPA institutes new specifications or discontinues the ENERGY STAR Program. Both parties agree that as technologies and markets

² Air Conditioning Contractors of America , 1513 16th St., NW. Washington, DC 20036.

³At the time of writing, a manufacturer limited warranty is typically 5 years for the compressor, and 1 year for parts.

change, it may become desirable to change the technical specifications included in this MOU in order to keep the ENERGY STAR Program responsive and to maintain its integrity.

- C. Both parties agree that this agreement can be terminated by ENERGY STAR Partner or EPA at any time, and for any reason, with no penalty. However, both parties agree that termination for noncompliance would only occur in accordance with the procedures of Section VII., below.

IV. ENERGY STAR Partner's Responsibilities

A. Reading and Understanding Logo Use Guidelines

ENERGY STAR Partner affirms that it has read, understands, and will abide by the attached Guidelines for Proper Use of the ENERGY STAR® Name and International Logo.

B. Appointment of Liaison

ENERGY STAR Partner agrees to appoint a responsible representative of the company as liaison with EPA for the ENERGY STAR Program and to notify EPA within one month of any change in liaison responsibility.

C. Product Qualification for the ENERGY STAR Logo

ENERGY STAR Partner agrees to introduce one or more specific models of air source heat pumps and/or central air-conditioners that meet the specifications outlined below. Integrated appliances may qualify by the specifications in either the first or second table shown below. If using Table 2, space heating only or space cooling only equipment must qualify under alternative A. Dual-mode equipment may qualify either under alternative A or alternative B.

Table 1

Product Type	SEER	HSPF
Air-Source Heat Pumps units shipped by December 31, 1999	\$ 12	\$ 7
Air-Source Heat Pumps units shipped on or after January 1, 2000	\$ 12	\$ 7.6
Central Air-Conditioners	\$ 12	n/a

Table 2. Integrated Heat Pumps/Air Conditioners

Capacity (Btuh - higher of heating or cooling)	Alternative A - Equipment must meet minimum ratings for both CCPF & CHPF (single-mode equipment need meet only the appropriate specification)		Alternative B - Equipment must meet minimum combined value
	CCPF	CHPF	
24,000 or less	\$ 7.6	\$ 5.9	CHPF + (0.29 * CCPF)\$ 8.2
24,001 - 30,000	\$ 8.0	\$ 6.1	CHPF + (0.34 * CCPF)\$ 9.1
30,001 - 36,000	\$ 8.5	\$ 6.3	CHPF + (0.37 * CCPF)\$ 9.7
36,001 - 42,000	\$ 8.8	\$ 6.4	CHPF + (0.32 * CCPF)\$ 9.5
42,001 - 54,000	\$ 9.1	\$ 6.5	CHPF + (0.34 * CCPF)\$ 9.9
54,001 - 65,000	\$ 9.5	\$ 6.7	CHPF + (0.37 * CCPF)\$ 10.5

C. Warranty

Partner shall include a manufacturer limited warranty with its qualified air-source heat pump or central air-conditioner models.

D. Heat Recovery

Partner shall consider including or encouraging the use of a desuperheater or heat recovery unit in its air-source heat pump or central air-conditioner models in order to provide some portion of the domestic water heating.

E. Testing

1. Partner agrees to perform tests, as necessary, to determine which models comply. Based on the results of these tests, Partner shall self-certify those models that it determines are compliant with the specifications outlined above. Partner may submit information to EPA on compliant models on a voluntary basis.
2. Partner agrees to perform energy-efficiency tests for air-source heat pumps and central air-conditioners under rating conditions in accordance with DOE test procedures found in 10 CFR 430 Appendix M to subpart B or in accordance with ARI 290 testing protocols. For split systems, the energy-efficiency ratings of a particular model shall be based on one of the following: 1) the condenser-evaporator combination that is the Partner's most commonly sold combination for that condenser, or 2) the actual condenser-evaporator coil combination of the split system model. These HSPF and SEER ratings shall be identical to the levels reported on the Federal Trade Commission (FTC) Energy Guide Label.

F. Training

1. Partner agrees that the proper installation of ENERGY STAR-labeled heating and air-conditioning equipment is important. Therefore, Partner agrees to offer training on issues such as air distribution systems and their effect on equipment performance, and proper installation of registers, duct work and plenum to ensure low leakage and to meet insulation requirements (see ASHRAE 90.2). In addition, Partner shall encourage distributors and contractors to take advantage of this or other relevant training opportunities.
2. Partner agrees that proper sizing of heating equipment is important to ensure optimal operational cycles and comfort. Partner agrees to offer training for equipment distributors or contractors, on the proper use of the Manual J calculation, or other equivalent calculation, in order to encourage proper sizing of equipment. In addition, Partner shall encourage distributors and contractors to take advantage of this or other relevant training opportunities.

G. Customer Education

1. Product Literature:

Partner shall provide general information to users regarding the benefits of energy-efficient air-source heat pumps and/or central air-conditioners. This information might include a description of the ENERGY STAR Program, and a discussion of the energy savings associated with the product. In addition, Partner is encouraged to include in product literature specific information on the type of refrigerant that is used in the model. Partner may determine the best manner through which to disseminate this general information to users. Examples of acceptable approaches include: user's manual, special brochures included with qualified models, sales literature, maintenance information, etc. Brochures and advertisements shall be worded to avoid misleading interpretations.

2. Logo Usage:

To help consumers become familiar with the ENERGY STAR Program, the Partner shall place the ENERGY STAR logo onto qualified models, where practical.⁴ The Partner shall also strive to include the ENERGY STAR logo in brochures, manuals, and advertisements, etc. for qualified models.

⁴ The ENERGY STAR logo may appear on the front of the model, or on the nameplate. For split systems, the logo shall be applied to the outdoor unit only.

H. Information Sharing

At EPA's request Partner agrees to attempt to locate customers who have profited from the program and are willing to share information about performance and savings, as well as to locate employees who have contributed to its success. This customer- or employee-supplied information is to be without reference to or endorsement of specific Partner, specific products, or other supply sources.

I. Employee Education

ENERGY STAR Partner agrees to provide information about the ENERGY STAR Program to all of its employees whose jobs are relevant to the development, marketing, sales, and service of ENERGY STAR products. This information and training is necessary to ensure that such personnel are familiar with the goals and operational aspects of the program. Partner may determine the best manner to provide this information and training to its employees.

J. Endorsement

ENERGY STAR Partner agrees that it will not construe, claim, or imply that its participation in the program constitutes EPA approval, acceptance, or endorsement of anything other than Partner's commitment to the program. Partner understands that participation in the ENERGY STAR program does not constitute EPA endorsement of ENERGY STAR Partner or its products. In addition, since the EPA will not officially approve any individual test reports submitted by Partner, Partner may not include misleading statements in product literature or sales presentations that imply a product is approved or certified by EPA. For example, partner shall not make claims such as, "This air-conditioner is EPA-approved," "This heat pump is EPA-certified" or any similar statement intended to convey an EPA endorsement.

K. Voluntary Action

ENERGY STAR Partner agrees that the activities it undertakes connected with the MOU are not intended to provide services to the federal government and that Partner will not submit a claim for compensation to any federal agency.

V. EPA's Responsibilities

A. Appointment of Liaison

EPA agrees to designate a single liaison point for the ENERGY STAR Program, and to notify Partner within one month of any change in liaison responsibilities. Please send signed MOU and other correspondence to this person. (See Attachment.)

B. Product Testing

EPA agrees to accept the certification by the Partner, whether it is self-determined or determined by an independent third party, that its qualifying product models satisfy the specifications set forth in this MOU. While this is a self-certifying process, EPA reserves the right to conduct tests on

products bearing the ENERGY STAR logo from either the open market or other available sources. EPA may request Partner to voluntarily provide products to be tested by EPA.

C. Consumer Acceptance

EPA agrees to make an effort to encourage consumer acceptance of models introduced under this agreement and bearing the ENERGY STAR logo.

D. Public Recognition

EPA agrees to provide Partner with recognition for its public service in protecting the environment by performing analyses about the pollution prevented by corporate participants, and providing this and other program information to appropriate news media sources for publication.

E. Consumer Education

EPA agrees to promote energy-efficient equipment, and to inform consumers about the ENERGY STAR Program and ENERGY STAR logo by writing articles and/or cooperating with the news media by sharing information, where appropriate.

F. Public Service Announcements

EPA agrees to work with Partner independently and/or in conjunction with other Partners to coordinate the placement of advertisements to promote energy-efficient equipment, educate consumers about the ENERGY STAR Program and logo, and provide Partner with due recognition for its public service in protecting the environment.

VI. Use of the ENERGY STAR® Logo and Name

A. Logo Use Guidelines

Partner shall read and abide by the attached Guidelines for Proper Use of the ENERGY STAR® Name and International Logo. Should EPA make changes to the logo use guidelines, Partner shall implement those changes as soon as practical after being notified by EPA of those changes.

VII. Conflict Resolution

A. Good Faith Principle

Each party agrees to exercise good faith as a general principle for resolving conflicts under the ENERGY STAR Program.

B. Notification of Problems

Both parties agree to informally notify each other if any problems or issues arise and to work together to provide maximum public confidence in the program.

C. Procedure for Addressing Noncompliant Products

1. If EPA receives information that one or more models certified by Partner as ENERGY STAR compliant may not meet all of the conditions of this MOU, then EPA will immediately notify Partner and attempt to address and resolve the problem informally.
2. If these informal discussions do not produce a mutually agreeable resolution, EPA shall notify Partner in writing that Partner shall be terminated from the program unless it undertakes the specific corrective actions sought by EPA. Partner agrees to reply to EPA in writing within 20 business days of receiving EPA's letter. At that time, Partner shall agree to do one of the following: (a) undertake in a timely and effective manner, the corrective actions sought by EPA; or (b) voluntarily terminate this agreement. If Partner does not respond to EPA's letter within 20 business days, or does not agree to either (a) or (b), then this agreement is terminated.

D. Notification in Writing

If ENERGY STAR Partner believes that EPA is not meeting all of its commitments, Partner agrees to formally notify EPA in writing. EPA agrees to respond in writing within 20 business days of receiving ENERGY STAR Partner's letter. At that time, EPA will do one of the following: (a) undertake the corrective actions sought by Partner, or (b) explain why such corrective actions can not be undertaken.

VIII. Freedom of Information Act and Confidential Business Information

Both parties understand that information provided by Partner to EPA will be treated in accordance with EPA's public information regulations under 40 Code of Federal Regulations, Part Two.

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Revisions to this Memorandum of Understanding will not be accepted

As representatives of EPA and **SAMPLE**, we, the undersigned, do hereby execute this Memorandum of Understanding on the latter of the dates indicated below.

For the U.S. Environmental Protection Agency (EPA):

Signature: _____ Date: _____

Name: Paul Stolpman

Title: Director, Office of Atmospheric Programs

For *SAMPLE*:

Signature: _____ *SAMPLE* _____ Date: _____

Name: _____ *SAMPLE* _____

Title: _____ *SAMPLE* _____